

**RESPONSE TO OFFICE ACTION**  
**Serial No. 10/690,318**  
**Page 6 of 9**

**REMARKS**

This response is intended as a full and complete response to the Office Action dated June 28, 2005. In view of the amendments and the following discussion, the Applicants believe that all claims are in allowable form.

**CLAIM ELECTIONS/RESTRICTIONS**

The Applicants hereby confirm the election of Group III, claims 8-27 for further prosecution. Claims 1-7 and 28-30 have been cancelled without prejudice. The Applicants reserve the right to file continuation/divisional applications to pursue non-elected subject matter.

**DOUBLE PATENTING**

Claims 8-11 and 16-19 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 7-8, 10, 12, and 19-20 of co-pending Application No. 10/666,317 in view of *Tao et al.* (U.S. Patent No. 6,620,631).

The Applicants provisionally agree to file a terminal disclaimer to resolve the present double patenting rejection if and when one of the applications is finally allowed. In accordance with MPEP §804(I)(B), "if the 'provisional' double patenting rejection in one application is the only rejection remaining in that application, the examiner should then withdraw that rejection and permit the application to issue as a patent, thereby converting the 'provisional' double patenting rejection in the other application(s) into a double patenting rejection at the time one application issues as a patent." As such, Applicants will file a terminal disclaimer in the future, if necessary.

**CLAIM REJECTIONS**

**35 U.S.C. §102(e)**      **Claims 8-9, 11-14, 16-17, 19-22 and 24**

Claims 8-9, 11-14, 16-17, 19-22 and 24 stand rejected as being anticipated by United States Patent No. 6,242,350 issued June 5, 2001, to Tao, et al. (hereinafter referred to as "*Tao I*"). In response, the Applicants have amended claims 8 and 16 to

RESPONSE TO OFFICE ACTION  
Serial No. 10/690,318  
Page 7 of 9

more clearly recite aspects of the invention. Additionally, the Applicants have cancelled claims 14 and 24 without prejudice.

Claims 8 and 16, as amended, recite limitations not taught or suggested by *Tao I*. *Tao I* does not teach or suggest measuring the dimensions of elements on a patterned mask on a substrate, trimming the patterned mask, etching at least one material layer on the substrate, at least one of compacting or removing at least a portion of post-etch residue formed on the sidewalls of the etched structure, measuring the dimensions of the etched structures, and adjusting the trimming and etching step recipes, as recited by claims 8 and 16.

Regarding claim 14 and 24, which now have been incorporated into independent claims 8 and 16, the Examiner asserted that *Tao I* discloses the compacting/outgassing or removing at least a portion of post etch residue formed on sidewalls of the etched structures. The Applicants respectfully disagree.

*Tao I* teaches sidewall deposition upon the sidewalls of the patterned masking layers by employing a sidewall polymer forming plasma such as a fluorocarbon etchant gas or a bromine containing etchant gas. (Column 9, lines 20-38.) Thus, *Tao I* does not teach at least one of compacting or removing of at least a portion of the post etch residue as in claims 8 and 16. Contrary to the Examiner's assertion, *Tao I* teaches the *formation* of the polymer layer, not the *removal* as in claims 8 and 16, as amended.

Therefore, independent claims 8 and 16, and claims 2-9, 11-13, 17, and 19-22 that depend therefrom, are patentable over *Tao I*. Accordingly, the Applicants respectfully request the rejection be withdrawn.

**35 U.S.C. §103(a) Claims 10 and 18**

Claims 10 and 18 stand rejected as being unpatentable over *Tao I*. In response, the Applicants have amended claim 8 and 16, from which claims 10 and 18 depend, to more clearly recite aspects of the invention.

As discussed above, claims 8 and 16, as amended, recite limitations not taught or suggested by the combination of *Tao I*. *Tao I* teaches sidewall deposition upon the sidewalls of the patterned masking layers by employing a sidewall polymer forming

RESPONSE TO OFFICE ACTION  
Serial No. 10/690,318  
Page 8 of 9

plasma such as a fluorocarbon etchant gas or a bromine containing etchant gas. (Column 9, lines 20-38.) Thus, *Tao I* does not teach the compacting/outgassing or removing of at least a portion of the post etch residue as in claims 8 and 16. Contrary to the Examiners assertion, *Tao I* teaches the *formation* of the polymer layer, not the *removal* as in amended claims 8 and 16.

Therefore, the Applicants submit that claims 10 and 18, are patentable over *Tao I*. Accordingly, the Applicants respectfully request the rejection be withdrawn.

**35 U.S.C. §103(a)                      Claims 15, 23, and 25-27**

Claims 15, 23, and 25-27 stand rejected as being unpatentable over *Tao I* in further view of United States Patent No. 6,242,350 issued June 5, 2001 to *Tao et al.*, (hereinafter referred to as "*Tao II*"). In response, the Applicants have amended claim 8 and 16, from which claims 15, 23, and 25-27 depend, to more clearly recite aspects of the invention.

The patentability of claims 8 and 16 over *Tao I* is discussed above. *Tao II* teaches removal of polymer residue by dry etching with nitrogen, oxygen and hydrogen. The Examiner asserts that because the etching step also etches the gate oxide, it would have been obvious to one of ordinary skill in the art at the time the invention was made to thin the post etch residue to a thickness of less than about 10 nm as one who is skilled in the art would be motivated to remove the residue, but not overetch the gate oxide. The Applicants respectfully disagree with the Examiner that one of ordinary skill in the art at the time the invention was made would be motivated to combine *Tao II* with *Tao I*. As discussed above, *Tao I* teaches sidewall deposition upon the sidewalls of the patterned masking layers by employing a sidewall polymer forming plasma such as a fluorocarbon etchant gas or a bromine containing etchant gas. *Tao I* does not teach or suggest any removal of the polymer layer. *Tao I* teaches quite the contrary: It specifically teaches how the disclosed process may be manipulated to actually form the polymer layer. (See column 9, lines 20-38.) Thus, one of ordinary skill in the art would not be motivated to use the polymer etching technique of *Tao II* to remove the polymer layer formed as taught by *Tao I*.

RESPONSE TO OFFICE ACTION  
Serial No. 10/690,318  
Page 9 of 9

Thus, claims 15, 23, and 25-27, which depend from claims 8 and 16, are patentable over *Tao I* in view of *Tao II*. Accordingly, the Applicants respectfully request the rejection be withdrawn.


**CONCLUSION**

Thus, the Applicants submit that all claims now pending are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issuance are earnestly solicited.

If, however, the Examiner believes that any unresolved issues still exist, it is requested that the Examiner telephone Mr. Keith Taboada at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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